setting the background to include portions of the frames at the depth of the outer edge of the face and at depths beyond the outer edge of the face.

15. The system of claim **14**, wherein the operations further comprise blurring the background.

16. The system of claim **9**, wherein the operations further comprise:

determining a temporal history of depth information of the video; and

performing hysteresis of video re-projection using the temporal history of the depth information of the video so as to maintain continuity of a re-projection and not respond to temporary objects moving in front of the face being re-projected, wherein the temporary objects are in front of the face being re-projected for less than a threshold period of time.

17. A non-transitory computer readable medium having stored thereon software instructions that, when executed by one or more processors, cause the one or more processors to perform operations including:

receiving a video including a plurality of frames, the video captured by a physical camera at a first point of view, wherein the video includes depth information corresponding to the plurality of frames;

detecting a face within the video, wherein the face is within a foreground portion of the plurality of frames of the video, and wherein detecting the face includes determining that an angle of the face about one or more axes is within a threshold range; and

in response to detecting the face:

determining the foreground portion of the plurality of frames based on one or more depth values of the depth information corresponding to the plurality of frames;

positioning a virtual camera at a second point of view, wherein the second point of view is different from the first point of view;

obtaining a projection matrix of the foreground portion based on the virtual camera, the projection matrix corresponding to the second point of view;

generating a modified video that includes a modified foreground portion based on the projection matrix; and

stabilizing the modified foreground portion of the modified video.

18. The non-transitory computer readable medium of claim **17**, wherein determining the foreground portion includes detecting a background, and wherein the detecting the background includes extruding the foreground portion of the face from the background.

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